No. 722,864. PATENTED MAR. 17, 1903.

L. O. LORENZ & F. B. JONES.

LADDER ATTACHMENT.

APPLICATION FILED JUNE 26, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 3.

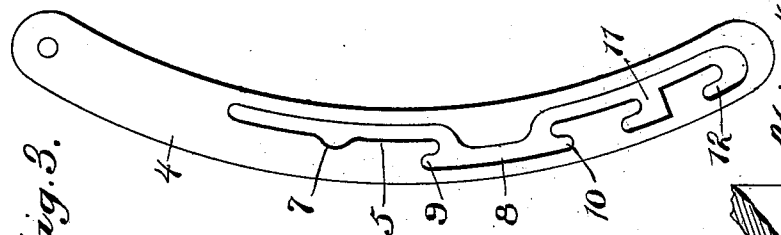


Fig. 4.

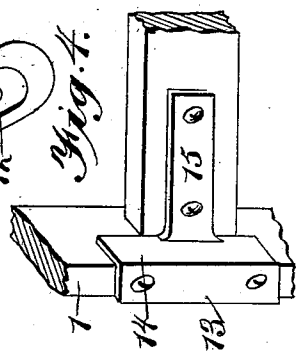


Fig. 2.

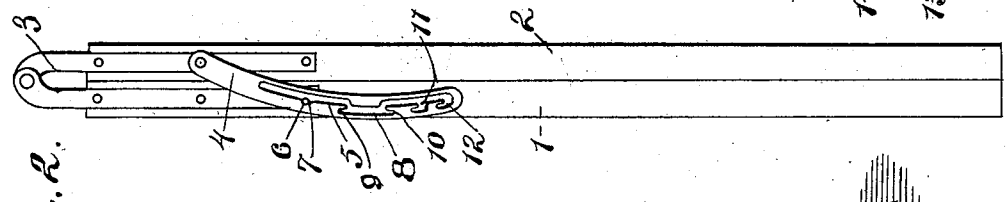
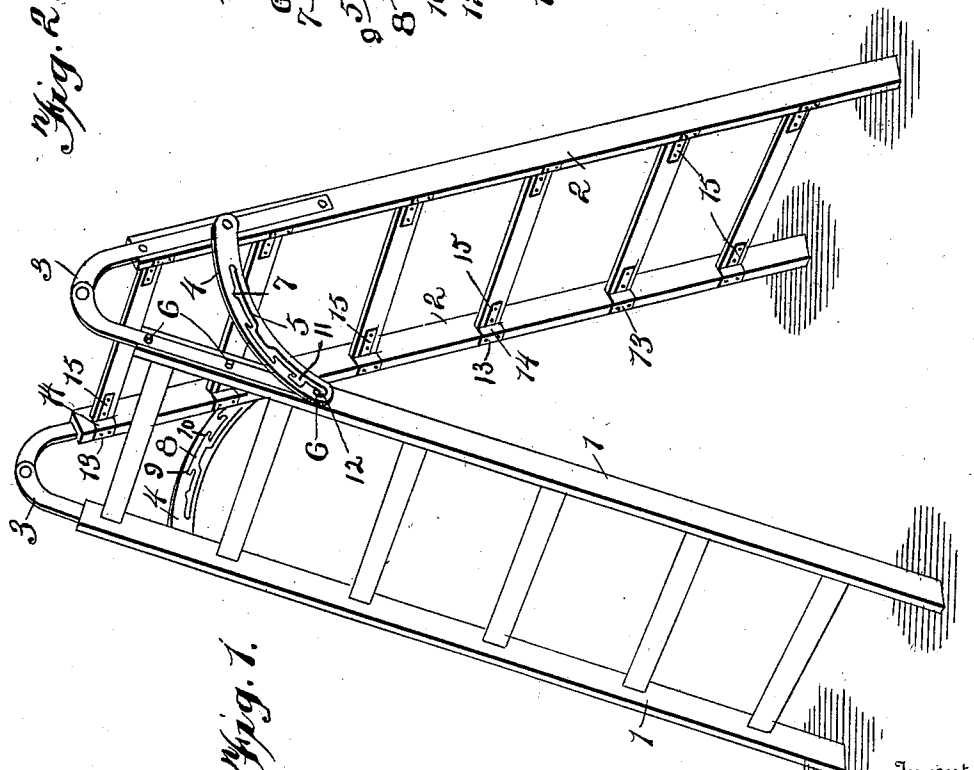


Fig. 1.



Witnesses

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 5.

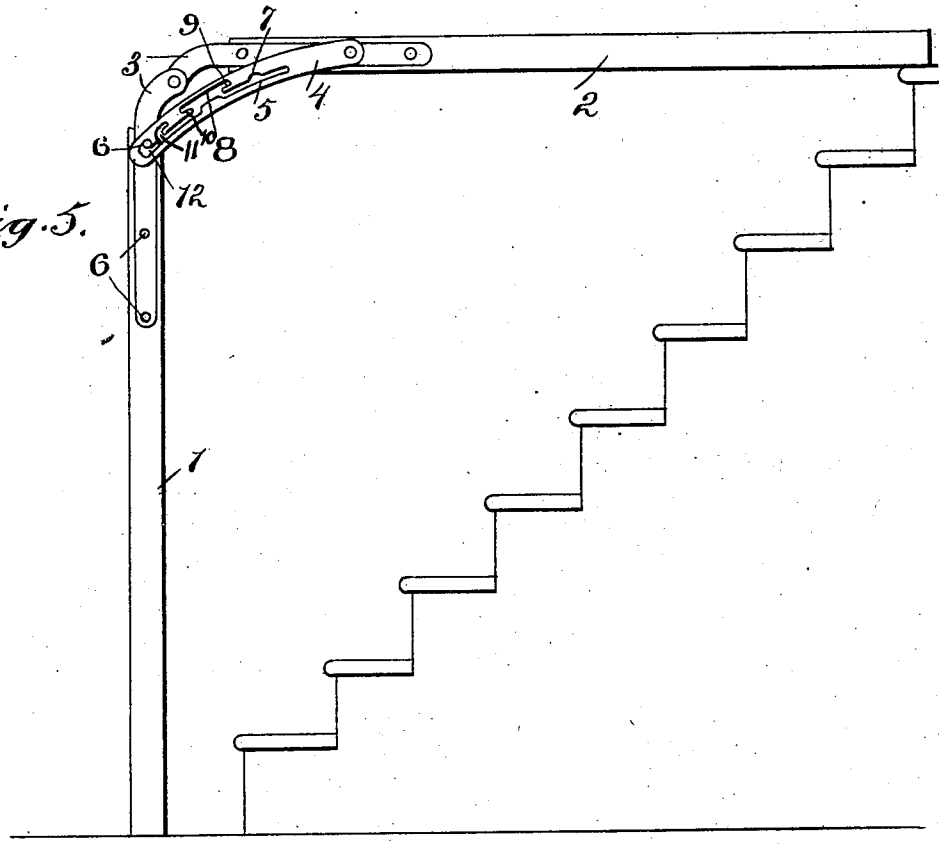


Fig. 6.

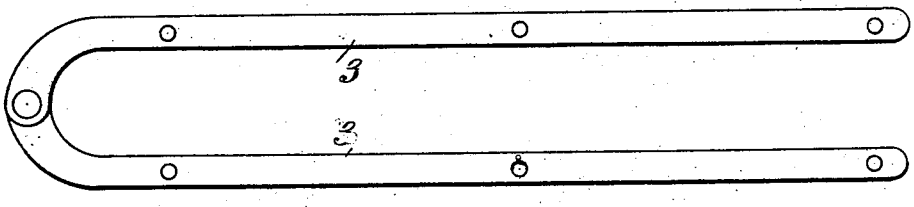
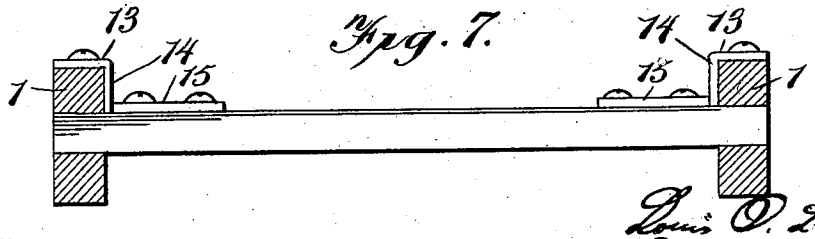


Fig. 7.



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UNITED STATES PATENT OFFICE.

LOUIS O. LORENZ AND FRANK B. JONES, OF STREATOR, ILLINOIS.

LADDER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 722,864, dated March 17, 1903.

Application filed June 26, 1901. Serial No. 66,172. (No model.)

To all whom it may concern:

Be it known that we, LOUIS O. LORENZ and FRANK B. JONES, citizens of the United States, residing at Streator, in the county of Lasalle and State of Illinois, have invented certain new and useful Improvements in Ladder Attachments, of which the following is a full and clear description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings.

This invention has relation to ladder attachments; and it consists in the novel construction and arrangement of its parts, as hereinafter described.

The object of this invention is to provide an attachment for ladders that consists of two sections hinged together at their upper ends, each ladder-section being provided with rounds or steps adapted to be used by a person for ascending or descending, the attachment being so constructed as to firmly hold the two sections in a certain position and at a desired angle with relation to each other, and the attachment being so constructed as to be adjustable in order to change the angle of the ladder-sections. A ladder thus equipped can be used to support scaffolding on a plain surface, and the ladder may be used on a flight of stairs or on a gable-roof, and either section may be used for ascending or descending. A means is provided to prevent any lateral wabbling of the ladder, thus adding to its safe use and stability and preventing the bar from laterally slipping off the pin while the ladder is being used.

In the accompanying drawings, Figure 1 is a perspective view of the ladder and the attachment, the ladder being opened out and standing on a plain surface. Fig. 2 is a side elevation of the closed ladder, showing the position of the attachment. Fig. 3 is a side elevation of the bar constituting part of the attachment. Fig. 4 is a detail perspective view of the means for preventing lateral wabbling of the ladder. Fig. 5 is a side view of the ladder, showing the position of the parts when the ladder is applied to a flight of stairs. Fig. 6 is a side view of the hinge for joining the upper ends of the sections of the ladder together; and Fig. 7 is a transverse sectional view of one of the sections of the ladder, showing the position of the means for preventing lateral wabbling.

The ladder consists of the sections 1 and 2, attached together at their upper ends by means of the hinge 3. Each of the sections 1 and 2 is provided with the ordinary rounds or steps, as shown. The bar 4 is pivoted at one end to one of the members of the hinge 3, and said bar is provided with a channel 5, which is adapted to receive any one of the pins 6 of the opposite member of the said hinge 3. The bar 4 is substantially arc-shaped, and the channel 5 in its length is also substantially arc-shaped. The said channel is provided near its inner end and in its upper edge with the recess 7, which is adapted to receive the pin 6 when the sections of the ladder are in the position as shown in Fig. 2, and thus the said sections are held in a closed position. At the point 8 the channel 5 extends up out of the line of its arc and then extends for a short distance in a parallel arc of greater radius and then descends and enters its original arc. The ends of the greater arc terminate in the recesses 9 and 10, each of which at certain positions of the sections of the ladder are adapted to receive one of the pins 6. The channel at the point 11 is provided with a recess, the upper end of which extends back in line with the greater arc above referred to, and at the outer end the said channel is curved back and terminates in a recess 12, which is also in line with the said greater arc. The said recesses at point 11 and 12 are beyond the section 8 of the channel 5 in the greater arc. In other words, the body portion of the channel 5 describes an arc of a circle, while all of the recesses, with the exception of 7, are in the line of a parallel arc of greater radius, and the pin 6 when located in any one of the said recesses in the greater arc is held therein by the projecting portion of the bar intervening between the two said arcs. It will thus be seen that by opening the sections of the ladder and permitting the pin 6 to enter any one of the said recesses of the greater arc the angle of the sections of the ladder may be varied and securely held. The said bar is made of metal, and it may be sprung to one side and made to engage any one of the pins 6, as the occasion may require.

As shown in Fig. 1, the bar 4 on the right-hand side of the ladder is pivoted to the section 2 of the ladder and engages the pin on section 1, while the bar 4 on the opposite side of the ladder is pivoted to the ladder-section 1 and engages the pin on the section 2. This method of applying the bars adds to the rigidity of the ladder.

It will be seen that if the section 2 of the ladder is used for ascending or descending the weight will act as a thrust on the bar 4 on the right-hand side of the ladder and as a pull on the bar on the opposite side, while if the section 1 is used for ascending or descending the weight will act on the said bars in the reverse. Thus either section can be used for ascending or descending without danger of the said sections spreading.

To prevent lateral wabbling of the ladder, the brace 13 is provided. Said brace consists of a metallic plate having the rectangular body portion 14, which is adapted to be secured to the upright of the ladder-section, and the horizontal portion 15, which is adapted to be secured to the round of the ladder. The said brace or braces preventing the lateral wabbling of the ladder-sections, the bars 4 cannot work laterally off of the pins 6 when the ladder is being used.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In combination with a ladder having sections hinged together, a bar pivoted to one section and having a channel adapted to receive a pin carried by the opposite section, said channel extending substantially in the line of an arc of a circle, said channel at an intermediate point extending up out of said line of arc and extending in the line of a parallel arc of greater radius then descending and entering the line of the original arc, said channel having recesses entering at each end of the said section in line of the arc of greater radius whereby when the sections of the ladder are opened or closed the said pin will be brought up into the section of the channel in line of the arc of greater radius, from which point it may be readily lodged in either of the said recesses.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

LOUIS O. LORENZ.
FRANK B. JONES.

Witnesses:
FRANK LORENZ,
HEINRICH KEIL.